REPORT

OF THE

SUPERINTENDENT

OF THE

Danville & Pottsville

RAIL ROAD.

Philadelphia,

PRINTED FOR THE COMPANY.

1838.

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To the President and Managers of the Danville and Pottsville Rail Road Company.

GENTLEMEN,

I have the honour to present to you the following REPORT of the state of the Danville and Pottsville Rail Road.

The Western division has been extended this season, by individual subscription, six and a half miles on to the Shamokin Coal Basin, making the whole distance from Sunbury on the Susquehannah into the Coal Basin, twenty and a half miles and 550 feet, which is now completed and ready for successful operation, passing two and a quarter miles into the Coal Field, with five lateral roads now in progress, connecting with the main trnnk, all of which will be completed in the course of a few months, one being four miles in length. As it is intended to place a locomotive on the Western division of the road early in the Spring, it will be found necessary for this portion of the road to have three water stations, two engine houses, one work-shop and two large turning platforms; also some preparation for shipping coal at Sunbury.

When the connection between the Western and Eastern division shall have been completed, or even the Western division extended six or eight miles farther, with the completion of the basin at Sunbury, it will be capable of doing a very extensive business. The undersigned has no doubt, that on the completion of the

canal from Columbia to Havredegrace the net tolls from this portion of the road will pay the interest on the cost of the whole line between Pottsville and Sunbury.—There will be at least thirty miles of the Western division that will be well adapted to locomotive power.

There is no thirty miles of rail road in the State that will be capable of throwing as much tonnage into the State canals, passing as it does, at least eight miles through one of the finest anthracite coal fields in the State.

The whole distance of the grading of the Eastern division, from the intersection of the Mount Carbon rail road is twelve miles, or fifteen and a quarter miles from Mount Carbon, leaving the distance to grade between the Eastern and Western division, 12½ miles. The superstructure of the Eastern division is finished within six hundred feet of Girardsville, making 12½ miles from Mount Carbon, including 6 inclined planes, in good working order, five of which are self-acting; the other has a stationary engine of ninety horse power, capable of raising two hundred thousand tons per annum. These planes have been in successful operation at intervals, during the years 1834–35 & 36. There were 290 tons of coal transported over them at the opening of the rail road in the Fall of 1834—6,200 tons of coal and 493,705 feet of lumber in 1835—and 12,304 tons of coal and 400,000 feet of lumber, and 1300 cross ties in 1836—and there might have been a very large business done during the past year had the Board been prepared with the necessary funds to prosecute it. I have very frequently been asked, Could not these

planes have been avoided? I answer in the negative.—From Mount Carbon to the summit, the distance is seven and three quarter miles, the height to be overcome is nine hundred feet. Then taking Pottsville as a starting point, even if an uniform grade could have been had, a rail road thirty miles long would have been necessary at a grade of thirty feet per mile, or twenty-two and an half miles long at a grade of forty feet per mile, to overcome this elevation. But it is evident, that even with this great increase of distance, an uniform grade could not have been had, and that a grade of at least one hundred feet per mile would have been necessarily encountered in any attempt to make a road to the summit without planes. On such a road, setting aside the increased expense of making and keeping up a road of such increased length, it is obvious that horse power only could have been used on it, and that horse power would have done but very little—for although locomotive engines can be used in such steep grades with high steam, and in a favourable state of the rails, *as a matter of experiment*, it is certain that they cannot be advantageously employed *at any time*, and cannot be used at all when the rails are frosted or slightly wet. These views go to show that the planes could not have been dispensed with on the east side of the mountain; it is a still clearer point, that they could not have been in descending from the summit to the City mines. Here the descent of 345 feet is effected with a single plane, by an engine capable of raising 200,000 tons of coal at an expenditure of less than $ 5000, or under 2½ cents per ton. It is obvious that if this descent had been effected by a graded road of ten miles, having a descent of 34½ feet per mile; or of fifteen miles having a de-

scent of 23 feet per mile, at the lowest rate of transportation on ascending grades, the cost of this last on the graded road ascending from Girardsville, must have been at least ten times what it is on the plane.

These simple views go to show, that whatever was to be the disadvantage of inclined planes on roads to accommodate passengers, or where the elevation is not too great to be overcome by tolerable grades, such a road was out of the question across the Broad Mountain, if there was any intention of bringing coal from the Girard mines to the city; and the plan of the road as it is, is much the best, and indeed the only one that could have been adopted across the Broad Mountain, that would have been worth any thing for transporting minerals or agricultural products.

The estimate annexed to this Report shows, that for a trade of less than 200,000 tons, the cost of passing *all* the planes will not exceed five cents per ton. So far as travel is concerned, it is true these planes constitute a hindrance; but it is to be remarked, that by using coaches on the Turnpike for ten miles only, across the Broad Mountain, all the planes are avoided. When therefore the rail roads in progress between Philadelphia and Pottsville are connected, there will be an uninterrupted communication by locomotive power, between Philadelphia and Sunbury, with the exception of this distance. As the baggage cars may, at all events, be taken on the rail road, a change of conveyance to the passengers will not, it is believed, be a very serious annoyance, if they should be apprehensive of danger; or there should be delay in passing the planes.

In conclusion, the undersigned would remark, that the whole road is in excellent order, and its solid execution has made the cost of repairs very light:—these in 1836 were 755 dollars, and for the past year $487 only on the whole road. The only material expenditure during the last year on the Eastern division, has been in extending the tunnel on the city property, which has been driven twenty-nine yards further, at an expense of $75 per yard, ~~on~~ an aggregate cost including some work at the face of the tunnel, of $2305.—This additional expenditure ~~of~~ the tunnel makes the entire expenditure on the City property for the tunnel, coal shutes, miners' houses &c. about thirty-five thousand dollars. That this expenditure might be turned to most valuable account and a large profit be now realized from working the City mines ~~in~~ a proper scale, I have no doubt.

All which is respectfully submitted.

Thomas Sharp,

SUPERINTENDENT.

January 30, 1838.

Estimated Expense of the Transportation and Repairs of the Inclined Planes between the Girard Mines and Pottsville.

MAHANOY PLANE.

Expense of Rope per annum,		$1000 00
2 Engineers for 34 weeks at $20 per week,		680 00
6 Men & 2 Boys as Plane Tenders at $48,		1632 00
20 Tons of Coal per week for Engine, at $1 per Ton for 34 weeks		680 00
Expense of Machinery for 34 weeks at $20		680 00
		$4672 00
Expense of Planes No. 1, 2, 3 & 4, each 2 Men at $7 : 50 per week, each for 34 weeks,	$510 00	
Exp. of Machinery for 34 weeks,	200 00	
	$710 00	
4 Planes at $710 each		2840 00
Superintendence for the Road and all the Planes,		1500 00
		$9012 00

The above is estimated as the Expense of Transporting over the Planes 5760 Tons per week, or 960 Tons per day, making in 34 weeks 195,840 Tons at 5 cts. per Ton is $9792 00

As above of keeping up and working the Planes,	9012 00
Leaving a Balance for contingencies,	$ 780 00